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LISTS OF PUBLICATIONS AND PATENTS
OF
BUREAU OF AGRICULTURAL AND INDUSTRIAL CHEMISTRY
AGRICULTURAL RESEARCH ADMINISTRATION
U. S. DEPARTMENT OF AGRICULTURE

Issued during fiscal year ended June 30, 1945 A

RESEARCH PUBLICATIONS

(Classified according to subappropriation items.)

Agricultural Chemical Investigations

Agricultural Chemical Research Division

The citrus canning waste disposal problem in Florida. By R. S. Ingols. Sewage Works Assoc. Jour. 17(2):320-330. March 1945.

Vitamin C content of processing residue from Florida citrus fruits. By C. D. Atkins, Eunice Wiederhold, and Edwin L. Moore. Fruit Prod. Jour. and Amer. Food Mfr. 24(9):260-262, 281. 1945. (With Fla. Citrus Commission.)

Flavor and ascorbic acid (vitamin C) retention in fresh Florida citrus juices. By Edwin L. Moore, C. D. Atkins, Eunice Wiederhold, and L. G. MacDowell. Jour. Home Econ. 37(5):290-293. 1945. (With Fla. Citrus Commission.)

Ascorbic acid retention in Florida grapefruit juices. II. During storage of the canned products. By Edwin L. Moore, Eunice Wiederhold, and C. Donald Atkins. Canner 100(8):55-57. Jan. 20, 1945. (With Fla. Citrus Commission.)

Ascorbic acid retention in Florida grapefruit juices. III. As related to individual factors of canning plant operations. By Eunice Wiederhold, C. D. Atkins, and Edwin L. Moore. Canner 100(23):12-14,23. May 5, 1945. (With Fla. Citrus Commission.)

Tangerine juice concentrates. A method of utilizing cull tangerines in preparing a tangerine sirup and beverage base. By C. D. Atkins and E. L. Moore. Citrus Indus. 25(11):3. 1944. (With Fla. Citrus Commission.)

Dehydration of Texas-grown snap beans. By D. J. Pentzer. Fruit Prod. Jour. and Amer. Food Mfr. 24(5):136-137,157. 1945.

Nutritive value of brined and fermented vegetables. By Ivan D. Jones and John L. Etchells. Amer. Jour. Pub. Health 34(7):711-718. 1944. (With N.C. Agr. Expt. Sta.).

Procedure for pasteurizing pickle products. By John L. Etchells and Ivan D. Jones. Glass Packers 23(7):519-523,546. 1944. (With N. C. Agr. Expt. Sta.)

The areobacter fermentation of cucumber during salting. By J. L. Etchells, F. W. Fabian, and I. D. Jones. Mich. Agr. Expt. Sta. Tech. Bul. 200. 1945. (With Mich. and N. C. Agr. Expt. Stations.)

Report on studies on uniformity of quality of sugars. I. Chemical and physical studies on beet sugars of the 1943 campaign. By C. A. Fort and S. Byall; II. Biological studies of sugars. By H. H. Hall and Dorothea J. Teunisson. AIC-62. (Processed.) 1944.

Miscellaneous studies at the Gainesville (Fla.) Tung Oil Laboratory. By R. S. McKinney. Proc. Joint Annual Convention Amer. Tung Oil Assoc. and United Tung Growers Assoc. (Processed.) Pages 59-63. 1944.

Effect of moisture on grinding of tung kernels and solvent extraction of meal. By A. F. Freeman, F. C. Pack, and R. S. McKinney. Proc. Joint Ann. Conv. Amer. Tung Oil Assoc. and United Tung Growers Assoc. (Processed.) Pages 43-52. Oil and Soap 21(11):328-330. 1944.

Hulling and expression of oil from tung fruit. By R. S. McKinney and Ruby E. Oglesbee. Proc. Joint Ann. Conv. Amer. Tung Oil Assoc. and United Tung Growers Assoc. (Processed.) Pages 87-97. 1944.

The effects of zinc and other trace elements on oil content of tung fruits. By George M. Bahrt, Robert Jones, Ernest Angelo, Andrew F. Freeman, Frank C. Pack, and Robert S. McKinney. Proc. Joint Ann. Conv. Amer. Tung Oil Assoc. and United Tung Growers Assoc. (Processed.) Pages 98-101. 1944 (With Bur. Plant Indus., Soils, and Agr. Engin.)

Studies in the expression of oil from tung fruit. By R. S. McKinney, N. J. Halbrock, and Ruby E. Oglesbee. Oil and Soap 21(12):353-357. 1944.

Some variations in solvent-extracted tung oils resulting from the solvents employed. By Robert S. McKinney and Ruby E. Oglesbee. Amer. Tung Oil Assoc. Proc. 1945. (Processed.) Pages 43-47.

Preliminary studies on the storage of tung fruit and seed. By Robert S. McKinney and Ruby E. Oglesbee. Amer. Tung Oil Assoc. Proc. 1945. (Processed.) Pages 48-51.

Drying of hulled tung nuts. By R. S. McKinney, F. C. Pack, and Ruby E. Oglesbee. Amer. Tung Oil Assoc. Proc. 1945. (Processed.) Pages 52-54.

Papaya products. By J. L. Heid and A. L. Curl. Fruit Prod. Jour. and Amer. Food Mfr. 24(2):41-44,53. 1944.

Some salts of aconitic acid. By J. A. Ambler, J. Turer, and George L. Keenan. Amer. Chem. Soc. Jour. 67(1):1-4. 1945. (With Food and Drug Adm.)

A water-soluble mannan from the seeds of Daubentonia drummondii. By A. L. Curl and E. K. Nelson. Amer. Chem. Soc. Jour. 66(7):1227. 1944.

Use of peanut flour in baking. By Emily Grewe. Food Res. 10(1):28-41. 1945.

Total and free amylase content of dormant cereals and related seeds. By Jehiel Davidson. Jour. Agr. Res. 70(6):175-200. 1945.

Pharmacology Laboratory

Acute and subacute toxicity of pure citrinin. By A. M. Ambrose and Floyd DeEds. Soc. Expt. Biol. and Med. Proc. 59(2):289-291. 1945.

Fruit and Vegetable Products Laboratory (Pullman, Wash.)

Ripening Washington-grown Elberta peaches for canning. By A. M. Neubert and M. K. Veldhuis. Fruit Prod. Jour. and Amer. Food Mfr. 23(12): 357-360,379,381. 1944. (With Wash. Agr. Expt. Sta.)

Clouding and sedimentation in clarified apple juice. By A. M. Neubert and M. K. Veldhuis. Fruit Prod. Jour. and Amer. Food Mfr. 23(11): 324-328,347. 1944. (With Wash. Agr. Expt. Sta.)

Variations in acidity of Concord grape juice. By D. R. McCormick, M. K. Veldhuis, and J. L. St. John. Fruit Prod. Jour. and Amer. Food Mfr. 24(4): 101-102,125. 1945. (With Wash. Agr. Expt. Sta.)

Cleaning vined canning peas by froth flotation. By A. M. Neubert and M. K. Veldhuis. Food Indus. 17(5):74-77, 188,190,192,194,196. 1945. (With Wash. Agr. Expt. Sta.)

Microbiology Research Division

Quality of egg powder affects rate of change in solubility. By L. S. Stuart, Harry E. Goresline, Helen F. Smart, and Virginia T. Dawson. Food Indus., 17(2):98-100,186. 1945.

Enzyme and Phytochemical Research Division

(The work on enzyme is supported in part by the subappropriation for Agricultural Chemical Investigations and in part by the Special Research Fund; all publications are listed below under "Special Research in Agriculture.")

Special Research in Agriculture

(Under Bankhead-Jones Act of June 29, 1935)

Enzyme and Phytochemical Research Division

Digestion of raw starch. By A. K. Balls and S. Schwimmer. Jour. Biol. Chem. 156(1):203-210. 1944.

Behavior of wheat starch with enzyme preparations from pancreas and Aspergillus. (Abstract.) By Sigmund Schwimmer. Fed. Amer. Socs. Expt. Biol. Proc. 4(1):102. 1945.

Comparison of crude and purified preparations of a leucylpeptidase associated with beef muscle. By Sigmund Schwimmer. Jour. Biol. Chem. 154(2):361-366. 1944.

Regeneration of heat-inactivated peroxidase. By Sigmund Schwimmer. Jour. Biol. Chem. 154(2):487-495. 1944.

Allergen Research Division

The Chemistry of allergens. X. Comparison of chemical and immunological properties of CB-1A preparations from domestic castor beans and Brazilian castor bean pomace. By Joseph R. Spies, E. J. Coulson, and Henry Stevens. Amer. Chem. Soc. Jour. 66(10): 1798-1799. 1944.

The immunochemistry of allergens. VI. Anaphylactogenic properties of a proteic component of kapok seed and the relationships of kapokseed antigens to cottonseed antigens. By E. J. Coulson, Joseph R. Spies, and Henry Stevens. Jour. Immunol. 49(2):99-116. 1944.

Naval Stores Investigations

Naval Stores Research Division

Further information on effect of chemical stimulation on grades and cloudiness of rosin. Naval Stores Rev. 55(4): 8 and 10. April 28, 1945. Jour. Amer. Turpentine Farmers Assoc. 7(9):12-13. June 1945.

Emergency Rubber Project

The compounding of guayule rubbers. Effect of carbon black loadings. By Frederick E. Clark and Wilfred F. L. Place. Indian Rubber World. 112(1):67-72. 1945.

Improving guayule rubber by shrub retting. By Jonathan W. White, Jr., Joseph Naghski, Paul J. Allen, Sam R. Hoover, and J. J. Williaman. India Rubber World 111 (5):570-573. 1945.

Aerobic decomposition of guayule shrub (Parthenium argentatum Gray.) By Joseph Naghski, Jonathan W. White, Jr., and Sam R. Hoover. Jour. Bact. 48(2):159-178. 1944.

Distribution of rubber in Cryptostegia as a factor in its recovery. By R. T. Whittenberger, B. A. Brice, and M. J. Copley. India Rubber World. 112(3):319-323. 1945.

Anaerobic fermentation of Cryptostegia leaves for recovery of rubber. By Joseph Naghski, Jonathan W. White, Jr., Sam R. Hoover, and J. J. Williaman. Jour. Bact. 49(6):563-574. 1945.

Ursolic acid and paraffin hydrocarbons from Cryptostegia leaves. By Jonathan W. White, Jr. and F. R. Senti. Amer. Chem. Soc. Jour. 67(5):881-882. 1945.

Oil Blue NA as a stain for rubber in sectioned or ground plant tissues. By Robert T. Whittenberger. Stain Tech. 19(3):93-98. July 1944.

Retting as an aid to rubber extraction from goldenrod. By J. J. Spadaro, E. F. Pollard, and N. Porges. Rubber Age 56(1):53-59. 1944.

A solution method for the compounding of goldenrod rubber. By Forrest L. McKennon and J. Raymond Lindquist. Rubber Age 56(3): 289-292. 1944.

Isolation of quercitrin and quercetin from goldenrod material. By J. D. Guthrie, R. T. O'Connor, M. F. Stansbury, and T. R. Savich. Amer. Chem. Soc. Jour. 66(10):1794-1795. 1944.

Physical-chemical investigations of goldenrod rubber. IV. Increase in viscosity and formation of photogels by irradiation of goldenrod rubber in the absence of oxygen. By Morris M. Graff and Evald L. Skau. Jour. Phys. Chem. 49(1):1-4. 1945.

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General

Meat dehydration. U. S. Dept. Agr. Cir. 706. 46 p. 1944. Prepared under direction of Committee on Dehydration of Meat. (With Bureaus Animal Indus.; Dairy Indus., Human Nutrition and Home Econ., and Plant Indus., Soils, and Agr. Engin.; Univ. of Chicago; and Amer. Meat Inst.)

Regional Research Laboratories

Northern Regional Research Laboratory

Pencillin. II. Natural variation and pencillin production in *Penicillium notatum* and allied species. By Kenneth B. Raper, Dorothy F. Alexander, and Robert D. Coghill. Jour. Bact. 48(6): 639-659. 1944.

Penicillin. III. The stability of penicillin in aqueous solution. By Robert G. Benedict, William H. Schmidt, Robert D. Coghill, and A. Paul Oleson. Jour. Bact. 49(1):85-95. 1945.

Penicillin. IV. A device for placing cylinders on assay plates. By Max D. Reeves and William H. Schmidt. Jour. Bact. 49(4):395-400. 1945.

Penicillin. VI. Effect of dissociation phases of *Bacillus subtilis* on penicillin assay. By William H. Schmidt, George E. Ward, and Robert D. Coghill. Jour. Bact. 49(4):411-412. 1945.

Penitrinic acid, a new pigment from Penicillium notatum. By Frank H. Stodola, Jacques L. Wachtel, Andrew J. Moyer, and Robert D. Coghill. Jour. Biol. Chem. 159(1):67-70. 1945.

Fermentation process for itaconic acid. By Lewis B. Lockwood and George E. Ward. Indus. and Engin. Chem. 37(4):405-406. 1945.

Some factors affecting the production of itaconic acid by Aspergillus terreus. By Lewis B. Lockwood and Max D. Reeves. Arch. Biochem. 6(3):455-469. 1945.

The laboratory-scale production of itaconic acid by Aspergillus terreus. By A. J. Moyer and R. D. Coghill. Arch. Biochem. 7(1):167-183. 1945.

New Aspergilli from soil. By Kenneth B. Raper and Charles Thom. Mycologia. 36(6):555-575. 1944.

The production and characterization of ultraviolet-induced mutations in Aspergillus terreus. I. Production of the mutations. By A. Hollaender, K. B. Raper, and R. D. Coghill. Amer. Jour. Bot. 32(3):160-165. 1945.

The production and characterization of ultraviolet-induced mutations in Aspergillus terreus. II. Cultural and morphological characteristics of the mutations. By Kenneth B. Raper, Robert D. Coghill, and Alexander Hollaender. Amer. Jour. Bot. 32(3):165-176. 1945. (With Natl. Inst. Health.)

The production and characterization of ultraviolet-induced mutations in Aspergillus terreus. III. Biochemical characteristics of the mutations. By Lewis B. Lockwood, Kenneth B. Raper, Andrew J. Moyer, and Robert D. Coghill. Amer. Jour. Bot. 32(4):214-217. 1945.

Making starch from wheat flour. By R. J. Dimler. AIC-68. (Processed.) 1944.

Stored and damaged wheats for starch production. By M. M. MacMasters and G. E. Hilbert. Cereal Chem. 21(4):258-266. 1944.

Production of starch from wheat and other cereal flours. By R. J. Dimler, H. A. Davis, C. E. Rist, and G. E. Hilbert. Cereal Chem. 21(5):430-446. 1944.

Improvements in the determination of starch in corn and wheat. By F. R. Earle and R. T. Milner. Cereal Chem. 21(6):567-575. 1944.

The composition of the "amylodextrin" fraction of wheat flour. By M. M. MacMasters and G. E. Hilbert. Cereal Chem. 21(6):548-555. 1944.

Glutinous corn and sorghum starches. By Majel M. MacMasters and G. E. Hilbert. Indus. and Engin. Chem. 36(10):958-963. 1944.

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Starch hydrolysis and fermentation by the yeast Endomycopsis fibuliger. By Lynferd J. Wickerham, Lewis B. Lockwood, O. Glenn Pettijohn, and George E. Ward. Jour. Bact. 48(4):413-427. 1944.

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Proposed use of starch sponges as internal surgical dressings absorbable by the body. By Claude W. Bice, M. M. MacMasters, and G. E. Hilbert. Science 100(2593):227-228. Sept. 8, 1944.

Effect of the sulfurous acid steep in corn wet milling. By Mary J. Cox, M. M. MacMasters, and G. E. Hilbert. Cereal Chem. 21(6):447-465. 1944.

Riboflavin production by Candida species. By F. W. Tanner, Jr., Charles Vojnovich, and J. M. Van Lanen. Science. 101(2616):180-181. Feb. 16, 1945.

The saccharification of agricultural residues. A continuous process. By J. W. Dunning and E. C. Lathrop. AIC-92 (Processed.) 1945. Indus. and Engin. Chem. 37(1):24-29. 1945.

Iron pentacarbonyl as antiknock agent in alcohol motor fuels. By Isadore Pitesky and Richard Wiebe. Indus. and Engin. Chem. 37(6):577-579. 1945.

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The borates of 2,3-butylene glycol. By S. A. Morell and E. C. Lathrop. Amer. Chem. Soc. Jour. 67(5):879-880. 1945.

The preparation of 1,3-and 1,4-pentadienes from furfural. By L. E. Schniepp and H. H. Geller. Amer. Chem. Soc. Jour. 67(1):54-56. 1945.

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Agricultural résidues-A comparative study. (For plastic molding compositions.) By T. F. Clark and S. I. Aronovsky. Modern Plastics 22(4):162-164,198. 1944.

Plastics from agricultural products. Plastics Catalog-1945, pp. 200-201. (Pub. by Plastics Catalogue Corp., New York.)

Agricultural residue pulps for corrugating. Effects of weathering and of various cooking conditions. By S. I. Aronovsky, J. O. Younger, and G. H. Nelson. Paper Trade Jour. 120(8):124,126,128,130,132. 1945. Paper Mill News 68(8):102,104,106,108,110. 1945.

The physical evaluation of straw and other agricultural residue pulps. A proposed method. By J. O. Younger and S. I. Aronovsky. Paper Mill News. 68(8):140-142. 1945. Paper Trade Jour. 120(19): 43-45. 1945.

A note on the effect of repeated treatment of corncob lignin by the 72-percent sulphuric acid method. By E. C. Dryden, J. D. Reid, and S. I. Aronovsky. Paper Trade Jour. 119(11):119-120. 1944.

Preparation of zein by precipitation method. By Cyril D. Evans, R. J. Foster, and C. Bradford Croston. Indus. and Engin. Chem. 37(2):175-177. 1945.

Extending phenolic resin plywood glue with corn gluten and soybean meal. By Glen E. Babcock and Allan K. Smith. AIC-65 (Processed.) 1944.

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Study of a soil-burial method for determining rot resistance of fabrics. By D. M. Batson, Dorothea J. Teunisson, and N. Porges. Amer. Dyestuff Rptr. 33(21):423-427;(22):449-454. 1944.

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Analyses of peanut kernels with relation to U. S. Standards for Farmers' Stock Peanuts. By Mack F. Stansbury, John D. Guthrie, and T. H. Hopper. Oil and Soap 21(8):239-247. 1944.

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Viscosities and densities of hydrogenated peanut oils. By Frank C. Magne and Helmut Wakeham. Oil and Soap 21(12):347-349. 1944.

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Thermal properties of fats and oils. II. Heat capacity and latent heat of cottonseed oil. By G. D. Oliver, W. S. Singleton, S. S. Todd, and A. E. Bailey. Oil and Soap 21(10):297-300. 1944.

Thermal properties of fats and oils. III. Calorimetric estimation of solid and liquid glycerides in cottonseed oil and hydrogenated cottonseed oil. By A. E. Bailey and G. D. Oliver. Oil and Soap 21(10):300-302. 1944.

Thermal properties of fats and oils. IV. Some observations on the polymorphism and X-ray diffraction characteristics of tristearin and a highly hydrogenated cottonseed oil. By A. E. Bailey, M. E. Jefferson, Florence B. Kreeger, and S. T. Bauer. Oil and Soap 22(1)10-13. 1945.

Thermal properties of fats and oils. V. The heat capacity and heat of fusion of highly hydrogenated cottonseed oil. By G. D. Oliver and A. E. Bailey. Oil and Soap 22(2):39-41. 1945.

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An arc source for ultraviolet absorption spectroscopy. By Robert T. O'Connor and Merrill E. Jefferson. Optical Soc. Amer. Jour. 34(9):540-542. 1944.

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